UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

MODINE MANUFACTURING COMPANY, Plaintiff, v. BORG-WARNER, INC., Defendant.	Case No. 12-CV-815-JPS ORDER

Modine Manufacturing Company ("Modine") filed this patent infringement suit against Borg-Warner, Inc. ("Borg"), on August 10, 2012. (Docket #1). Modine accuses Borg of infringing its United States Patent No. 8,033,323 ("the '323 patent"). The '323 patent covers a heat exchanger used to recirculate exhaust gas in larger vehicles. Modine asserts that Borg created a similar product ("the accused product") that infringes the '323 patent.

The parties have filed cross-motions for summary judgment. (Docket #29; #34). Modine seeks a judgment holding that Borg's accused product infringes the '323 patent; Borg, on the other hand, seeks the opposite: an order holding that the accused product *does not* infringe the '323 patent. The parties have fully briefed the summary judgment motions. (Docket #30; #35; #44; #51; #58; #62). They have also filed a number of motions requesting that the Court seal documents in this case. (Docket #28; #43; #50; #56; #57).

The Court will now address each of these motions, dealing first with the motions for summary judgment. In doing so, the Court will first discuss the background of the '323 patent as well as the accused product. It will then turn to its claim construction of the '323 patent before addressing the parties' arguments over whether the accused product infringes the '323 patent.

Finally, after reaching a decision on the motions for summary judgment, the Court will address the parties' motions to seal.

1. BACKGROUND

The '323 patent and the accused product are both complex. Thus, the Court provides a bit of background on each, in order to assist the reader in understanding the technologies at issue. This discussion is not a part of the Court's claim construction and does not constitute findings of fact; rather, it serves only to provide a basis for the claim construction and legal analysis that follows it.

1.1 General Functionality of the '323 Patent

Large vehicles commonly use "Exhaust Gas Recirculation" ("EGR") systems to reduce their levels of pollutant emissions. EGR systems receive some of the engine's exhaust and return it to the engine's intake.

There is a major problem that EGR systems must contend with, though: the exhaust is extremely hot when the engine releases it and must be cooled before it returns to the engine. Thus, EGR systems come equipped with "heat exchanger" or "EGR cooler" components. These components are made up of metallic tubes through which the exhaust flows. Engine coolant flows around the tubes, cooling the exhaust inside.

The cooling process largely solves the exhaust heat problem, but creates another: the extreme temperatures of the exhaust cause the metallic tubes to expand and contract lengthwise. Engineers must account for this factor in designing EGR systems. They must also account for the fact that any EGR system will be a part of an engine, which will inevitably vibrate (presumably substantially so on the large vehicles in question). Thus, the EGR systems must be built to have enough flexibility to allow expansion and

contraction, but not so much that the tubes are overly stressed by the vibrations, which may lead to damage.

This is a delicate balancing act for engineers, and is made all the more delicate as the amount of recirculated exhaust increases. A greater amount of exhaust requires a larger system (often longer tubes), which in turn are more likely to be damaged caused by vibration. As already noted, engineers must compensate for this vibration by restricting tube movement to some degree, but must also allow enough flexibility so that the tubes can expand and contract as the heat of the exhaust inside fluctuates.

Here, Modine's '323 patent comes into play. The '323 patent calls for the metallic tubes to be inserted into a grid-like structure. There are also springs attached to this grid-like structure. In conjunction, the grid-like structures and the springs reduce the amount of vibration on the tubes. Together, this system provides support for the tubes to prevent them from being damaged by vibration while still allowing them to move laterally as a result of heat contraction and expansion.

1.2 Creation and General Functionality of the Accused Product

The development of the accused product dates back to 2007. That year, Navistar, a corporation specializing in the manufacture of large over-the-road trucks and engines, hired a Spanish company, ENSA, to develop an EGR cooler for one of Navistar's engines. (Navistar had previously worked with Modine to supply its EGR coolers, but apparently elected to change its EGR cooler supplier.)

ENSA complied with Navistar's request and began to develop the accused product. ENSA worked for several years without reaching a finished product, likely encountering the same difficulties as discussed above regarding vibration and fluctuation of the metal tubes.

Eventually, ENSA completed development of its accused product. As may be gleaned from the fact that Modine filed this patent suit, there are many similarities between the technology described in the '323 patent and the accused product. Much like the technology described in the '323 patent, the accused product uses grid-like structures and springs in a way that reduces vibrations while still allowing lateral contraction and expansion in the tubes.

Those similarities form the basis of this dispute. Borg is the defendant (as opposed to ENSA), because during the development period, in 2010, Borg purchased ENSA, and is thus now the manufacturer and seller of the accused product.

2. CLAIM CONSTRUCTION

Before the Court turns to its infringement analysis, it must first construe the claims found in the '323 patent. This process, called "claim construction" is extremely important to the Court's infringement analysis, because the Court will compare the accused product to the '323 patent, *as the Court has construed that patent's claims during its claim construction*, to determine whether the accused product infringes the '323 patent. *See Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1576 (Fed. Cir. 1993). The Court begins this process by setting forth the legal standards governing claim construction, then turns to engaging in the claim construction.

2.1 Claim Construction Legal Standard

Claim construction is a question of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*) ("We therefore…hold that in a case tried to a jury, the court has the power and obligation to construe as a matter of law the meaning of language used in the patent claim."), *aff'd*, 517 U.S. 370 (1996). Claim construction often involves one of two separate scenarios: either it involves "little more than the application of the widely accepted meaning of commonly understood words"; or, it involves the "examination of terms that have a particular meaning in a field of art." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). In applying widely accepted meanings under the first scenario, the Court may look to general purpose dictionaries to determine those meanings. *Id.* On the other hand, in the second scenario, the Court should look to a broader spectrum of evidence in order to give the claims their ordinary and customary meaning, as a person of ordinary skill in the art would have applied to them at the time the invention was made. *Id.*, at 1313. To determine that meaning, the Court should begin with the intrinsic evidence, such as the language of the claim, the remainder of the patent and its specification, and the prosecution history; it is only if the intrinsic evidence is not sufficient to resolve all ambiguities that the Court should look to extrinsic evidence, such as dictionaries, expert witnesses and case law, because that evidence is less important to determine the operative meaning of the claim. *Id.*, at 1314, 1317–18, 1322, 1324; *see also Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1370 (Fed. Cir. 2005); *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004);

Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

2.2 Construction of the '323 Patent's Claims

The parties spend their entire briefs addressing only two independent claims: Claim 1 and Claim 15.[1] Claim 1 reads, in full, as follows:

> 1. A heat exchanger comprising:
>
> a bundle of tubes inserted into a tubular housing, wherein exhaust gas flows through the tubes;
>
> an elastic element permitting differences in thermal expansion in a tube-axial direction between the bundle of tubes and the tubular housing;
>
> a coolant duct arranged between the tubes, wherein the bundle of tubes includes at least one grid-like securing structure which supports the bundle in the housing; and
>
> a plurality of metallic springs attached in at least one of a positively locking and frictionally locking fashion to the grid-like securing structure, each of the springs including a planar section extending in the tube-axial direction and disposed against a surface of the tubes and an outwardly curved section joined to and extending from the planar section, spring force of the springs being directed against the housing in order to reduce transmission of vibrations.

Claim 15 provides, in full, for

> 15. A heat exchanger comprising:
>
> a bundle of tubes inserted into a tubular housing, wherein exhaust gas flows through the tubes in a tube-axial direction, wherein the bundle of tubes has a first side and a different second side;

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[1]Modine notes that it also asserts claims 2–8, 10–14, 16, and 18–27. (Docket #30, at 4, n.2). The Court agrees, but will focus on Claim 1 and Claim 15, as those two claims form the basis of the parties' dispute.

> a coolant duct arranged between the tubes, wherein the bundle of tubes includes at least one grid-like securing structure which supports the bundle in the housing; and
>
> a plurality of metallic springs attached to the bundle of tubes to prevent relative movement therebetween in the tube-axial direction, spring force of the springs being directed against the housing in order to reduce transmission of vibrations;
>
> wherein the plurality of metallic springs includes a first spring including a first planar section disposed against the first side of the bundle of tubes and a first outwardly curved section joined to and extending from the first planar section , wherein the plurality of metallic springs includes a second spring including a second planar section disposed against the second side of the bundle of tubes and a second outwardly curved section joined to and extending from the second planar section, and wherein the first spring and the second spring are substantially in a plane extending transversely through the bundle of tubes.

The parties argue with each other over many of the terms contained in those two claims. The Court's task, therefore, is to resolve those disputes and then to interpret each claim with those terms' meanings resolved.

2.2.1 Grid-Like Securing Structure

Modine seeks to have the Court define "grid-like securing structure" broadly as any structure "that secures the relative positioning among the tubes within the bundle…includ[ing] parallel supports regularly spaced between the tubes." (Docket #30, at 13). Borg, on the other, seeks a much narrower definition for the term, limited to "[i]ntersecting components forming a grid" made up of "a first component and a plurality of rods extending from the first component," and requiring that the "grid rods must

extend completely through each coolant duct in each row to support the bundle of tubes in the housing." (Docket #51, at 10).

The parties primarily focus their disagreements in this regard on whether the grid-like structure must have rods that extend all the way through the coolant duct. Borg argues that the rods must extend all the way through the coolant duct; Modine disagrees.

Borg argues that the '323 patent's specification unambiguously disclaims or disavows the claim scope by stating that "grid rods are intended at any rate to extend through the coolant duct." (Docket #51 at 11–12 (citing *Phillips*, 415 F.3d at 1315)). In other words, Borg argues that, by including that statement in the '323 patent's specification, Modine essentially limited the scope of the patent to include only inventions that contain grid rods that extend all the way through the coolant duct.

This is wrong for multiple reasons. To begin, the language that Borg points to is not clear enough to support a disavowal. "Importantly, any limitation based on such disclaimer must be shown with reasonable clarity and deliberateness." *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1368 (Fed. Cir. 2009). Moreover, the Federal Circuit has strictly cautioned against "importing limitations from the specification into the claims," because of the difficult nature of doing so. *Voda v. Cordis Corp.*, 536 F.3d 1311, 1320 (Fed. Cir. 2008) (citing *Phillips*, 415 F.3d at 1323; *Comark Commc'ns, Inc v. Harris Corp.*, 156 F.3d 1182, 1186–87 (Fed. Cir. 1998). The Federal Circuit has, for instance, found disavowal in the following cases: (1) where the patent stated that "[a]ll data subject to encryption by operation of the present invention is maintained in an encrypted state in the [kernel memory] buffer pool," this constituted a disavowal that the patent covered

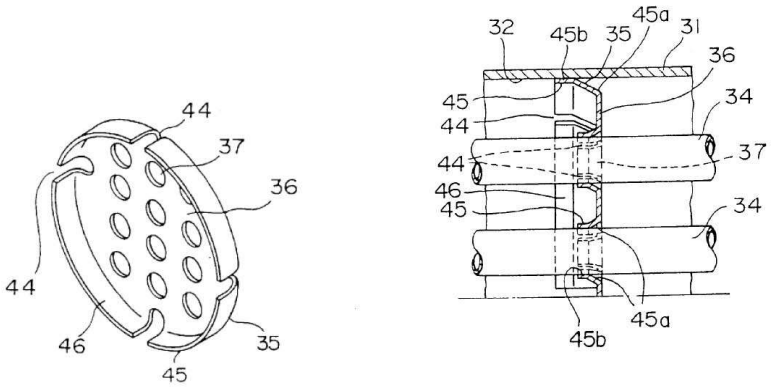
data maintained in an *unencrypted* state, *Data Encryption Corp. v. Microsoft Corp.*, 248 Fed. App'x 166, 169 (Fed. Cir. 2007); and (2) where the patent expressly criticized prior art and touted its own novelty, this constituted a disavowal of the prior art, *see, e.g., Sunbeam Prods., Inc. v. HoMedics, Inc.*, 412 Fed. App'x 263, 268 (Fed. Cir. 2010), *L.B. Plastics, Inc. v. Amerimax Home Prods., Inc.*, 499 F.3d 1303, 1309–10 (Fed. Cir. 2007), *Schwing GmbH v. Putzmeister Aktiengesellschaft*, 305 F.3d 1318, 1329 (Fed.Cir.2002). The language here is much more ambiguous. Unlike the latter cases, it does not expressly criticize a method of the invention that would include grid rods that extend less than all the way through the coolant duct. It also does not reach the level of specificity found in the *Data Encryption* case. In *Data Encryption*, the patent noted, clearly, that "*[a]ll* data subject to encryption *is maintained* in an encrypted state...." 248 Fed. App'x at 169 (emphasis added). Here, the language is less clear, and almost off-hand, noting that "grid rods are *intended at any rate* to extend through the coolant duct." (Emphasis added). This seems to the Court to be less of a clear directive of how the patent must be embodied and more of a comment upon the preferred specification.

This brings up the second issue with Borg's disavowal argument: the fact that the language is plainly not extremely clear. It mentions that grid rods are intended to "extend through," but does not make clear whether this is intended to mean that the rods extend all the way through the duct. The Court agrees with Modine that "through" could have a meaning other than "all the way through." And, absent the clear language that the Federal Circuit requires to find disavowal, the Court finds Borg's disavowal argument to be unavailing.

Third, Borg is also incorrect to assert that the '323 patent cannot be embodied by other grid-like structures with grid rods of different configurations. To begin, there is nothing in the patent's claim terms that expressly require the rods to extend all the way through the coolant duct; nor does the term "grid-like" somehow imply that the rods must extend all the way through the coolant duct. Moreover, the claim examiner interpreted the "grid-like structure" requirement broadly, and identified a prior art circular structure with a grid-like system of holes, which is shown in the figure below.

For all of these reasons, the Court disagrees with Borg and sides with Modine. It must interpret the "grid-like securing structure" requirement broadly as any structure that secures the relative positioning among the tubes within the bundle, including parallel supports regularly spaced between the tubes, and with no requirement that the supports extend all the way through the coolant duct.

Fig. 4



Takikawa Patent, Fig. 4

2.2.2 Supports the Bundle in the Housing

The parties next disagree over the meaning of the term "supports the bundle in the housing." According to the patent's language, both Claim 1 and Claim 15 require that the grid-like structure support the bundle of exhaust tubes within the housing. The parties disagree over whether this requires that the grid-like structure *directly* support the bundle, such as through a solder joint. (Docket #30, at 16; Docket #51, at 13). Borg argues that this language requires such direct support, while Modine argues that the language would be satisfied through either direct or indirect support. (Docket #30, at 16; Docket #51, at 13).

Again, the Court must side with Modine. Borg points only to the specification in support of its contention, but the Court must, of course, beware of importing limitations from the specification, and nowhere in the claim language does it appear that "support" must be direct. *Voda*, 536 F.3d at 1320 (citing *Phillips*, 415 F.3d at 1323; *Comark Commc'ns*, 156 F.3d at 1186–87). In fact, the specification makes clear that the term "supported" should be read "broadly" to "encompass both direct and indirect mountings, connections, supports, and couplings." (U.S. Patent No. 8,033,323, at 3:10–3:13).

Thus, the Court must conclude that the term "supported" includes both direct and indirect supports, and therefore the grid-like structure does not need to directly support the tube bundle (such as through the use of a solder joint rather).

2.2.3 Coolant Duct

The next issue is whether the coolant duct referenced in the '323 patent must be confined to "the relatively flat space between adjacent flat portions of the tubes within a tube bundle," as Borg asserts. (Docket #51, at 14). On this point, the parties are very far apart. Borg argues that the coolant duct must be very limited to the "flat space between adjacent flat portions of the tubes within a tube bundle," while Modine takes the position that the coolant duct can be any "tube or channel through which coolant flows." In other words, Borg asserts that the coolant duct can only be the space between tubes in the bundle, whereas Modine argues that the coolant duct could actually be a separate tube through which coolant flows.

The Court agrees with Borg. The '323 patent does not discuss the use of a separate tube as a coolant duct. Moreover, Modine's cited dictionary definition of "duct" does not require the potential for a separate tube (Docket #30, at 17 (citing the *American Heritage Dictionary* definition of duct as "an often enclosed passage or channel for conveying a substance, especially a liquid or gas.")). In fact, the cited definition more readily supports Borg's proposed definition because it calls for a passage or channel for conveying a substance, and the space between the tubes can readily be classified as a passage or channel between the tubes.

For these reasons, the Court determines that the term "coolant duct" is limited to the space between the tubes, and does not include the possibility of a separate tube.

2.2.4 Plurality of Metallic Springs

The parties generally agree that the term "metallic springs," means springs made of metal. (Docket #30, at 17; Docket #51, at 14). But Borg asks the Court to go further to determine that "a plurality of metallic springs," means "more than one individual spring made of metal that is independent from any other metallic spring." (Docket #51, at 14). It seems that Modine would generally agree with this definition. (Docket #30, at 19).

The Court does, as well. This is a correct interpretation of the term "a plurality," and so the Court finds that "a plurality of metallic springs" means more than one individual spring, each of which is made of metal and independent from any other spring.

2.2.5 Attached

The '323 patent requires that the above-discussed springs be "attached" to the grid-like structure (as in Claim 1) or to the tube bundle (as in Claim 15). The parties disagree over what this attachment requirement means. Borg argues that the term requires permanent direct attachment prior to insertion of the tube bundle into its housing, whereas Modine argues that the term is much broader and means only joined, affixed, or anchored. (Docket #30, at 17–18; Docket #51, at 15–16). This is likely the most important portion of the Court's claim construction, and it requires that the Court delve more deeply into other terms in the '323 patent.

One thing, however, is clear without any further analysis: there is no temporal requirement as to when the springs must be attached. In other words, contrary to Borg's position, nothing in the '323 patent requires that the springs be attached prior to the insertion of the tube bundle into its housing. Borg attempts to add this temporal requirement, but does not point

to any evidence to support it. Accordingly, the Court is unable to conclude that the patent requires that any attachment occurs before insertion of the tube bundle into the housing.

On the other hand, the issue of whether the term "attached" requires a direct and immovable attachment is a closer call that requires the construction of various other terms. Moreover, both Claim 1 and Claim 15 differ in their use of the term, and so the Court must interpret them separately because the meaning of the term "attached" may have a different meaning as used in Claim 1 than it does as used in Claim 15.

2.2.5.1 Claim 1's Attachment Requirement

Claim 1 calls for "a plurality of metallic springs attached in at least one of a positively locking and frictionally locking fashion to the grid-like securing structure," and thus requires further definition of the terms "positively locking" and "frictionally locking" which will be discussed further below. The Court can, however, glean the essential elements of this requirement through an examination of the '323 patent's language. Those elements are best summarized as follows:

(1) attachment of the springs;

(2) to the grid-like securing structure;

(3) in at least one of

  (a) a positively locking fashion and

  (b) a frictionally locking fashion.

In essence, the Court must construe each of those elements to reach a full construction of this portion of Claim 1.

The Court will take each of those elements in reverse order. It will begin by construing the terms "positively locking" and "frictionally locking," because those terms describe the type of attachment that must occur. Then, the Court will turn to construing the term "at least one," because the Court must determine whether Claim 1 always requires both positive locking and frictional locking attachments to be met. Finally, the Court will apply all of that information to its constructions of the terms "attachment" and "to the grid-like securing structure" to determine the ultimate construction of this portion of Claim 1.

2.2.5.1.1 Positively Locking Fashion

The parties generally agree that the term requires that the metallic springs are somehow attached using a form of physical "interlocking" of parts. (*See* Docket #60, at ¶ 26, and Resp.). In other words, they agree that there must be some physically interlocking mechanism between the spring and the grid-like structure.

They disagree, however, on the amount of movement that such a lock would allow. Borg contends that the term "positively locking fashion" requires that the springs be directly and immovably fixed to the grid-like structure. (Docket #51, at 16–18). Under Borg's proposed construction, the springs would necessarily be fixed to the grid-like structure in a way that prevented relative movement between the two *entirely*, such that any time the grid-like structure were to move, the springs would move likewise. (Docket #51, at 17). Under this definition, the two items would not be permitted to move independently from one another. Modine disagrees, asserting that the term calls for the springs to be fixed in a way that *limits* but does not entirely *cut off* relative movement between the springs and the grid.

(Docket #32, Ex. 1, at ¶ 36; Docket #31, at 18–19). In other words, under Modine's proposal, the springs would be locked to the grid-like structure in a way that allows for slight movement between the two items.

In the end, the construction of this term turns on the verb "lock." If the Court determines that positive "locking" requires an immovable attachment, then the Court must side with Borg. If, on the other hand, the Court believes that the described "locking" allows for some "play" in the attachment between the spring and the grid, then the Court must side with Modine.

Here, the Court must adopt Borg's suggested definition. The verb "lock" has a commonly understood meaning that the Court will apply. *See, e.g.*, *Phillips*, 415 F.3d at 1314. As it is commonly used, the verb "lock" means to prevent movement entirely. The Court understands Modine's expert's argument that certain types of locks allow for movement (such as a padlock, which may allow a door to open slightly to avoid damage, but does not allow the door to open fully). The Court first points out that this asserted definition of the word "lock" finds absolutely no support anywhere in the intrinsic evidence. Moreover, while *some* locks may allow for a bit of "play," not every lock does so. The deadbolt lock in a door, for instance, does not allow such play. The dictionary definition of the verb "lock" is also helpful, noting that the word means "to fix in place so that movement or escape is impossible." The Court agrees—as commonly understood, the verb "lock" implies the impossibility of movement.

Thus, the Court finds that the term requires that the springs be immovably fixed to the grid-like structure. As such, the Court construes the term "positively locking fashion" to mean physical interlocking engagement between elements that entirely prevents relative movement between those elements.

2.2.5.1.2 Frictionally Locking Fashion

The parties agree that attachment in a "frictionally locking fashion" rests upon the existence of some frictional or contact force that locks the elements in place. (Docket #51, at 18). However, as with positive locking, Borg asserts that frictional locking requires direct and immovable attachment between the elements. (Docket #51, at 18). Having discussed the meaning of the verb "lock," the Court applies that same definition here, and holds that this term also requires the impossibility of relative movement between the tubes and the grid.[2]

Accordingly, as it determined with positive locking, the Court also construes the term "frictionally locking fashion" to mean a manner of securing items that uses the contact or frictional pressure between the surfaces of those items to entirely prevent relative movement between them.

2.2.5.1.3 At Least One

The construction of this term, despite its common usage, is actually extremely difficult. Typically, the term "at least one" connotes what is basically an either/or proposition with the added possibility of both. That is the definition Modine urges upon the Court.

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[2]That use is even further supported here by the nature of a frictional lock. Because a frictional lock rests upon the existence of friction to lock the elements in place, movement within the attachment would undermine the frictional lock, causing the pieces to become unlocked or frictionally disattached.

That standard usage may not be applicable, here, though. Claim 1 states that attachment must occur in "at least one of a positively locking *and* frictionally locking fashion." As typically used, the term "at least one" is followed by a list of items or categories that are joined by the disjunctive "or." And if Claim 1 included that disjunctive language, the Court could easily determine that it means either type of locking or both. But, because the language includes the conjunctive "and," the construction is slightly more difficult. Use of the term "and" connotes that both a positive and frictional lock must occur.

This reading of the phrase "at least one…and" is further supported by the Federal Circuit's decision in *SuperGuide Corp. v. Direct TV Enters., Inc.*, 358 F.3d 870 (Fed. Cir. 2004). In that case, the Federal Circuit examined a patent that allowed for storage of "at least one of a desired program start time, a desired program end time, a desired program service, and a desired program type." *Id.*, at 885. Thus, the Federal Circuit faced the same issue confronting this Court: whether the conjunctive "and" changes the meaning of the phrase "at least one." The Federal Circuit determined that the plain language of "at least one," when coupled with the conjunctive "and" *does*, in fact, change the meaning of "at least one," so that the phrase required storage of one of every type of category in the list following it. *Id*, at 886. Similarly, here, where Modine used the conjunctive "and" between the terms positively locking and frictionally locking, the Court concludes that the plain language of the phrase

must be construed to mean that one type of both a positive lock and a frictional lock must be present for Claim 1 to be satisfied.[3]

Thus, the Court construes the term in keeping with its plain meaning and the import of the intrinsic evidence to mean requiring both positively locking and frictionally locking attachment.

2.2.5.1.4 Attachment to the Grid-Like Securing Structure

With the terms "positively locking fashion," "frictionally locking fashion," and "at least one," construed, the picture becomes clearer. The Court can import its definitions of those terms into the term "attachment to the grid-like securing structure," to construe what this claim means.

Doing so, the Court determines that this claim means that the springs must be attached to the grid-like securing structure in both a positively locking fashion and a frictionally locking fashion, in both cases with the requirement that the attachment be immovable.

2.2.5.2 Claim 15's Attachment Requirement

Claim 15 requires "a plurality of metallic springs attached to the bundle of tubes to prevent relative movement therebetween in the tube-axial direction." The parties' primary disagreement on this point is over the meaning of the term "prevent relative movement." Modine asserts that it is

[3]The Court also notes that it finds the primary case Modine has put forth to counter the *SuperGuide* case to be distinguishable. The court in *Joao v. Sleepy Hollow Bank*, 348 F. Supp. 2d 120, 126 (S.D.N.Y. 2004), for example, specifically noted that its decision "has absolutely no precedential value for any other patent." Likewise, the remainder of the cases cited by Modine all involved patents where application of the *Superguide* language would clearly conflict with the specification. Here, on the other hand, the intrinsic evidence is conflicted. Modine correctly posits that the term "and/or" is used occasionally in the specification, but that term was removed from Claim 1 during prosecution, and several of the figures show configurations that include both frictionally locking *and* positively locking attachments.

meant to allow for a limited amount of movement, whereas Borg asserts that the term should be read strictly as requiring a direct and immovable attachment so as to entirely prevent any movement.

Again, the Court believes that this term is susceptible to an "application of the widely accepted meaning of commonly understood words," and the Court will construe it in keeping with that widely accepted meaning. *See, e.g.*, *Phillips*, 415 F.3d at 1314, 1317, 1324. "Prevent" is commonly understood to mean to foreclose the occurrence of something. Here, that common understanding would apply to foreclose any relative movement. The dictionary definition of the term is in keeping with that understanding: it provides that "prevent" means: "1. [t]o keep from happening; avert; 2. [t]o keep (a person or thing) from doing something; impede." *American Heritage Dictionary*. Thus, the Court finds that the word "prevent" means to entirely foreclose the possibility of "relative movement."

The parties generally agree that "relative movement" means the movement that occurs between the springs and the tubes, and that is the term's commonly understood meaning.

Thus, the Court is obliged to determine that the term "prevent relative movement" means to entirely foreclose any movement that may occur between the elements in the tube axial direction between the bundle of tubes and the metal springs.

2.2.6 Planar Section Extending in a Tube Axial Direction

Both Claim 1 and Claim 15 describe the springs as having a "planar section." The parties, however, focus most of their arguments on this term around Claim 1's description of "planar section extending in the tube-axial

direction." Borg argues that the planar section must be a part of the spring (Docket # 51, at 23–24).

The Court agrees. The Claims note that the springs should "include" the planar section, clearly intoning that the planar sections are a part of the spring.

As for the meaning of "planar section extending in the tube-axial direction," the parties seem to agree that this simply means a flat section of the spring that extends in the same direction as the tube. The Court agrees and will adopt that construction.

2.2.7 Outwardly Curved Section

Both Claim 1 and Claim 15 describe the springs as including an "outwardly curved section joined to and extending from" the planar section. The parties disagree over the meaning of "outwardly curved," with Borg arguing that the term requires a "continuous" curve (Docket #51, at 24–25) and Modine arguing that there is no such requirement (Docket #30, at 20).

Modine gets the best of this issue. The term "outwardly curved" is clear on its face. Simply put, it means a curve that turns outward. There is no need to resort even to the intrinsic evidence to construe that term because it is not a term of art. *See, e.g.*, *Phillips*, 415 F.3d at 1314, 1317, 1324. There is nothing in the term that requires that the curve be continuous; nor, even if the Court were to look to the intrinsic or extrinsic evidence, would it find some mandate that the curve be continuous. There is no basis to read that requirement into the term.

Thus, the court adopts Modine's suggested construction and construes "outwardly curved section" to mean simply what it says: that the spring includes a section that curves outwards with no requirement that the curve be continuous.

2.3 Summary of Claim Construction

Having construed each claim in dispute, the Court sets forth the following tables, including its construction of each term, for ease of use.

CLAIM 1	
Term	Construction
Grid-like securing structure	any structure that secures the relative positioning among the tubes within the bundle including parallel supports regularly spaced between the tubes, and with no requirement that the supports extend all of the way through the coolant duct
Supports the bundle in the housing	both direct and indirect supports, and therefore the grid-like structure does not need to directly support the tube bundle (such as through the use of a solder joint rather)
Coolant duct	limited to the space between the tubes, and does not include the possibility of a separate tube
Plurality of metallic springs	more than one individual spring, each of which is made of metal and independent from any other spring
Positively locking fashion	physical interlocking engagement between elements that entirely prevents relative movement between those elements.
Frictionally locking fashion	manner of securing items that uses the contact or frictional pressure between the surfaces of those items to entirely prevent relative movement between them
Attached in at least one of a positively locking and frictionally locking fashion to the grid like securing structure	attached to the grid-like securing structure in both a positively locking fashion and a frictionally locking fashion, in both cases with the requirement that the attachment be immovable
Planar section extending in a tube axial direction	flat section of the spring that extends in the same direction as the tube, and which is not required to be a part of the spring
Outwardly curved section	section that curves outwards with no requirement that the curve be continuous

CLAIM 15	
Term	Construction
grid-like securing structure	any structure that secures the relative positioning among the tubes within the bundle including parallel supports regularly spaced between the tubes, and with no requirement that the supports extend all of the way through the coolant duct
supports the bundle in the housing	both direct and indirect supports, and therefore the grid-like structure does not need to directly support the tube bundle (such as through the use of a solder joint rather)
Coolant duct	limited to the space between the tubes, and does not include the possibility of a separate tube
Plurality of metallic springs	more than one individual spring, each of which is made of metal and independent from any other spring
a plurality of metallic springs attached to the bundle of tubes to prevent relative movement therebetween in the tube-axial direction	entirely foreclose any movement that may occur between the elements in the tube axial direction between the bundle of tubes and the metal springs.
planar section extending in a tube axial direction	flat section of the spring that extends in the same direction as the tube, and which is not required to be a part of the spring
outwardly curved section	section that curves outwards with no requirement that the curve be continuous

3. SUMMARY JUDGMENT ANALYSIS OF INFRINGEMENT

With the claim construction completed, the Court turns next to its infringement analysis, in which it must compare the claims of the '323 patent to the accused product. *Innovention Toys, LLC v. MGA Entertainment, Inc.*, 637 F.3d 1314, 1318–19 (Fed. Cir. 2011).

3.1 Summary Judgment Legal Standard

"The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled

to judgment as a matter of law." Fed. R. Civ. P. 56(a); *see also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). "Material facts" are those under the applicable substantive law that "might affect the outcome of the suit." *Anderson*, 477 U.S. at 248. A dispute over a "material fact" is "genuine" if "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Id.*

3.2 Infringement Legal Standard

"[W]hoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor infringes the patent." 35 U.S.C. § 271(a).

A finding of infringement is appropriate only when every element of the patent's claim limitations are found, either literally or by equivalent, in the accused device. *Warner-Jenkinson Co. v. Hilton Davis Chem Co.*, 520 U.S. 17, 29 (1997); *TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1379 (Fed. Cir. 2008) (*quoting Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1358 (Fed. Cir. 2005)). To prove this, "the plaintiff must establish by a preponderance of the evidence that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents." *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1310 (Fed. Cir. 2005); *Siemens Medical Solutions USA, Inc. v. Saint-Gobain Ceramics & Plastics, Inc.*, 637 F.3d 1269, 1270 (Fed. Cir. 2011). That is because "[p]atent infringement, whether literal or by equivalence, is an issue of fact, which the patentee must prove…." *Siemens*, 637 F.3d at 1270 (*citing Cross Med.*, 424 F.3d at 1310; *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1468 (Fed. Cir.

1993); *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1123 (Fed. Cir. 1985)).

That "literal" infringement "occurs when every limitation recited in the claim appears in the accused device, i.e., when 'the properly construed claim reads on the accused device exactly.'" *DeMarini Sports v. Worth*, 239 F.3d 1314, 1331 (Fed. Cir. 2001) (*quoting Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996)).

Infringement under the "doctrine of equivalents," on the other hand, "requires that the accused product contain each limitation of the claim or its equivalent." *DeMarini*, 239 F.3d at 1331 (*citing Warner-Jenkinson*, 520 U.S. at 40). In applying the doctrine of equivalents, the Court must be very careful not to apply the doctrine in a manner that would "entirely vitiate" a claim limitation and must "consider the totality of the circumstances of each case and determine whether the alleged equivalent can be fairly characterized as an insubstantial change from the claimed subject matter without rendering the pertinent limitation meaningless." *Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1358–59 (citing *Warner-Jenkinson*, 520 U.S. at 29; *Novartis Pharm. Corp. v. Abbott Labs.*, 375 F.3d 1328, 1338–39 (Fed. Cir. 2004); *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1106 (Fed. Cir. 2000); *Ethicon Endo–Surgery, Inc. v. U.S. Surgical Corp.*, 149 F.3d 1309, 1317–21 (Fed. Cir. 1998); *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997)). As such, regardless of whether applying the doctrine of equivalents or searching for literal infringement, the patentee still must show that *every* claim limitation is met by the accused device. *Warner-Jenkinson*, 520 U.S. at 29.

To succeed in this case under the doctrine of equivalents, Modine must "provide particularized testimony and linking argument as to the

insubstantiality of the differences between the claimed invention and the accused device or process…on a limitation-by-limitation basis." *See Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558 (Fed. Cir. 1996). If Modine has failed to do so or has failed to establish that Borg's accused device reads on every element of the claims in the '323 patent, then the Court must dismiss this case.

3.3 Infringement Analysis

Borg sets forth several separate arguments in favor of its motion for summary judgment of non-infringement. Three of those reasons derive directly from a comparison between the accused device and the patent, and involve Borg's assertions that:

(1) the accused device allows for movement between its springs and grid-like structure (Docket #35, at 15–21);

(2) the accused device's springs are not attached in *both* a positively locking fashion and a functionally locking fashion (Docket #35, at 21–25); and

(3) the accused does not include a grid-like securing structure (Docket #35, at 25–30).

The first two of those items are both sufficient to establish the fact that Borg's accused device does not infringe the '323 patent. As the Court discussed in its claim construction, above, the '323 patent's attachment requirements do not allow for any relative movement between the springs and the tubes or the grid-like securing structure. Moreover, Claim 1 requires that attachment occur in both a positively locking and functionally locking fashion.

Borg has clearly established that its springs allow for the relative movement of both the grid-like structure as well as the tube bundle. (*See, e.g.*, Docket #37, at ¶¶ 17–21 (explaining the operation of the accused device)). In fact, Modine seems to acknowledge as much and turns its argument to

pointing out that the Borg device limits the relative movement between those elements. (Docket #44, at 10–12 (for example, noting that "the baffle creates a hard stop for the anchors and skids that keeps movement of the spring clip from happening beyond the baffle.")).

Thus, Modine having acknowledged that there is relative movement between those elements, and the Court having determined that the claims require absolute prevention or foreclosure of such movement, there is no way in which Modine could establish infringement. Summary judgment in favor of Borg, finding non-infringement is therefore appropriate.

The Court also points out that, while this analysis is not necessary to its conclusion that summary judgment in Borg's favor is appropriate, that determination is further supported by the fact that, at the very least, Claim 1 and its dependent claims could not be infringed, because those claims require both a positively locking and functionally locking attachment. The evidence establishes that there is no frictional locking between the springs and the grid-like securing structure in the accused product. (Docket #48, at ¶¶ 48–49 and Resp. (Modine stating that it is "[u]ndisputed" that, in the accused product, the anchors, which are part of the elastic clips, "cover, but do not touch the tops of the baffle frames"; this is pertinent because frictional locking requires friction (and thus contact) between the springs and the grid-like structure)). Without the existence of that frictional locking, Claim 1 cannot possibly be infringed.

4. CONCLUSION

For the reasons set forth above, the Court is obliged to determine that Borg's accused device does not infringe Modine's '323 patent. Therefore, the Court must grant Borg's motion for summary judgment of non-infringement

(Docket #34) and must simultaneously deny Modine's motion for summary judgment of infringement (Docket #29).

Finally, the Court must also address the parties' various motions to seal documents. (Docket #28, #43, #50, #56, #57). In all, those motions seek the sealing of the following items: Exhibits 2, 3, 12, 14, and 15, of Docket #31 (Docket #28); Exhibit 11 of Docket #45 (Docket #43); Exhibits A through F of Docket #54 (Docket #50); Exhibits 5 through 8 of Docket #55 (Docket #50); Exhibits 2, 3, and 7 through 12 of Docket #61 (Docket #57); Exhibit 3 of Docket #64 (Docket #56); and Exhibits H and I of Docket #65 (Docket #56). The Court has reviewed each of the items the parties have requested to file under seal, and has determined that each contains sensitive and proprietary business and technical information that, if released publicly, could have very serious adverse consequences for the parties. The Court finds good cause and believes it necessary, therefore, to grant the parties' motions to seal those documents.

However, as the Court noted in its protective order, litigation should be "conducted in public to the maximum extent consistent with respecting trade secrets…and other facts that should be held in confidence." *Hicklin Eng'r, L.C. v. Bartell*, 439 F.3d 346, 348 (7th Cir. 2006). This opinion, therefore, will not be sealed. It does not reveal any sensitive business information or other facts that should be held in confidence, and should be disclosed to the public in keeping with the requirement that litigation be conducted in the public eye.

Accordingly,

IT IS ORDERED that the plaintiff's motion for summary judgment of infringement (Docket #29) be and the same is hereby DENIED;

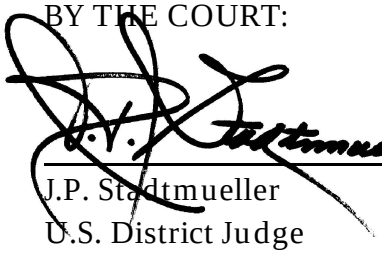
IT IS FURTHER ORDERED that the defendant's motion for summary judgment of non-infringement (Docket #34) be and the same is hereby GRANTED, and accordingly this case be and the same is hereby DISMISSED; and

IT IS FURTHER ORDERED that the parties' motions to seal (Docket #28, #43, #50, #56, #57) be and the same are hereby GRANTED.

The Clerk of Court is directed to enter judgment accordingly.

Dated at Milwaukee, Wisconsin, this 15th day of October, 2013.

BY THE COURT:



J.P. Stadtmueller
U.S. District Judge